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IN BRIEF

DIABETES

SLC16A11 variant associated with T2DM

Previous studies have demonstrated that variants of *SLC16A11* are associated with an increased risk of developing type 2 diabetes mellitus (T2DM) in Latin American populations. A new study has investigated this association in 12,811 people from North American Indian populations. In this analysis, the rs75493593 A allele was found to be associated with T2DM. The risk allele was strongly associated with BMI, which meant that the association between the allele and T2DM was stronger in lean individuals than in those with a high BMI. The researchers also analysed global gene expression data from adipose tissue, skeletal muscle and whole blood. They found that the rs75493593 A allele was associated with the expression of the *RNASEK* gene (located close to *SLC16A11)*, which suggests that expression of this gene could mediate the effects of the genotype on the risk of T2DM.

ORIGINAL ARTICLE Traurig, M. *et al.* Analysis of *SLC16A11* variants in 12,811 American Indians: genotype-obesity interaction for type 2 diabetes and an association with *RNASEK* expression. *Diabetes* doi:10.2337/db15-0571

SURGERY

Intestinal adaptation to bariatric surgery

Different types of bariatric surgery have different effects on glucose processing in the intestine, according to new research. Obese male rats underwent Roux-en-Y gastric bypass (RYGB), vertical sleeve gastrectomy (VSG) or sham surgery. Levels of the mRNAs for SGLT1, GLUT1, GLUT2, GLUT3, GLUT4 and GLUT5 (sugar transporters) were measured and intestinal segments were histologically analysed. Sections of Roux limbs from patients who had undergone RYGB 1–5 years previously were also analysed. The Roux limbs of rats and humans who underwent RYGB were hyperplastic; however, no hyperplasia occurred in the intestines of rats that underwent VSG. Expression of the genes encoding sugar transporters increased after RYGB, along with intestinal disposal of glucose. By contrast, intestinal absorption of glucose was decreased after VSG, and the density of cells secreting glucagon-like peptide 1 increased. The investigators note that although the intestine adapts differently to the two surgeries, all the changes contribute to improved glycaemia.

ORIGINAL ARTICLE Cavin, J.-B. *et al.* Differences in alimentary glucose absorption and intestinal disposal of blood glucose following Roux-en-Y gastric bypass vs sleeve gastrectomy. *J. Gastroenterol.* doi:10.1053/j.gastro.2015.10.009

GENETICS

Mutation implicated in XX gonadal dysgenesis

A new study has used homozygosity mapping and whole-exome sequencing to identify a recessive missense mutation in the gene that encodes nucleoporin-107 (*NUP107*, c.1339G>A, p.D447N) that is associated with XX gonadal dysgenesis in female individuals. The analysis involved an extended consanguineous family of Palestinian origin. The mutation was present in the four female family members with XX gonadal dysgenesis, but was not found in 150 healthy controls matched for ethnicity. Experiments in *Drosophila melanogaster* bearing the equivalent mutation indicated that the mutation causes defective oogenesis. The authors of the paper suggest that nucleoporin-107 is involved in ovarian development, and that defects in nucleoporins could be involved in common disorders such as premature ovarian failure.

ORIGINAL ARTICLE Weinberg-Shukron, A. *et al.* A mutation in the nucleoporin-107 gene causes XX gonadal dysgenesis. *J. Clin. Invest.* doi:10.1172/JCI83553